REMARKS

In the Office Action, claims 1-3, 13-16, 26-29 and 39 were rejected. By the present Response, claims 1, 13, 14, 26, 27 and 39 are amended. Upon entry of the amendments, claims 1-3, 13-16, 26-29 and 39 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 112

Claims 1, 13, 14, 26, 27 and 39 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to supply antecedent bases to the limitation "the backprojected data" in each of the claims. Claims 1, 13, 14, 26, 27 and 39 have been amended to supply antecedent basis to the above-mentioned recitation in each of the claims.

Rejections Under 35 U.S.C. § 102

In the Office Action, claims 1-3, 13-16, and 26 were rejected under 35 U.S.C. §102(b) as being anticipated by Webber, U.S. Patent No. 6,081,577. A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. In re Donohue, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Applicants respectfully assert that the present invention, as recited in amended independent claims 1, 13, 14 and 26 is patentable over the Webber reference.

The Webber reference discloses method for generating tomosynthesis images optimized for a specific diagnostic task. The Webber reference further illustrates a task-dependent method for tomosynthetic image reconstruction designed for mitigating the effects of ringing artifacts from unregistered details located outside the focal plane of reconstruction. See, e.g., Weber, FIG. 24. As illustrated, the two radiopaque objects 1140 and 1142 within and above the focal plane 1141 are irradiated from two different source positions 1144 to produce two distinct data images or projection images. The first data image 1146 contains an image of the first radiopaque object 1140 at relative position

C and an image of the second radiopaque object 1142 at relative position B, while the second data image 1148 contains an image of the first radiopaque object 1140 at relative position F and an image of the second radiopaque object 1142 at relative position G. The Webber further states,

> *When a linear combination (backprojection) of the first and second data images is performed, the image intensity at the same relative position of both data images is averaged.* For example, relative position B in one data image corresponds to relative position E in the other data image and, therefore, the corresponding relative position in the tomosynthetic image is assigned an intensity equal to the average of the intensity measured at relative position B and relative position E (i.e., (B+E)/2. *As a result, the tomosynthetic image 1150 is marked by a blurring of the image produced by the first radiopaque object 1140. However, when a non-linear combination of the first and second data images is performed, both data images are compared and, for example, only the minimum intensity at each relative position is retained.* For example, relative position B in one data image corresponds to relative position E in the other data image and, therefore, the corresponding relative position in the tomosynthetic image is assigned an intensity equal to the lesser of the intensities measured at relative position B and relative position E (i.e., B or E). *As a result, the blurring shadows are eliminated from the tomosynthetic image 1152.*"
>
> Weber, col. 22, lines 9-47 (emphasis added). *See* also, Fig. 24(a) and (b).

Clearly, Webber discloses two different techniques for generating a tomosynthesis image. As described in Webber, the non-linear combination (minimization) is preferred over linear combination (backprojection) as the non-linear combination reduces blurring artifacts. *See*, Weber, col. 22, line 48 – col. 23, line 19. Applicants respectfully assert that *there is no teaching or suggestion that the backprojected data are being further processed via a non-linear operator as claimed in the present application.* In fact, Webber teaches that one skilled in the art may not need a backprojection technique at all and may just rely on the non-linear combination of the projection images to generate tomosynthesis image for diagnosis. *See*, Weber, col. 28, lines 14-31. Specifically, Webber states that

> *This approach is very efficient: it is simpler to implement than conventional tomosynthetic back-projection methods; and it produces sharp-appearing images that do not require additional computationally intensive inverse filtering or interative deconvolution schemes.*
>
> Weber, col. 28, lines 20-24 (emphasis added).

The claimed process uses a backprojection technique on the acquired projection images to generate a backprojected data. The backprojected data is further processed via a non-linear operator to generate a three-dimensional dataset representative of the imaged object.

Additionally, Webber only discloses minimum and maximum non-linear operators. Though Weber suggests that other non-linear operators may be used, the reference never discloses or teaches any other types of non-linear operators, such as those claimed in the present application. Again, the non-linear operators disclosed in Webber process the projection image data and not backprojected data.

At least because ***Webber does not disclose or suggest a technique that involves processing the backprojected data using a non-linear operator*** as claimed in the present application, the reference cannot support a *prima facie* case of anticipation of claims 1, 13, 14 or 26. Claims 2-3 and 15-16 depend directly or indirectly from claims 1 and 14 respectively. Accordingly, the Applicants submit that claims 2-3 and 15-16 are allowable by virtue of their dependency from an allowable base claim. Applicants also submit that the dependent claims are further allowable by virtue of the subject matter they separately recite. Thus, it is respectfully requested that the rejections of claims 1-3, 13-16 and 26 under 35 U.S.C. §102(b) be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 27-29 and 39 were rejected under 35 U.S.C. §103(a) as being unpatentable over Webber in view of Stanton et al., U.S. Patent No. 6,744,848. At least because

Webber, as discussed above, fails to teach or suggest processing the backprojected data using a non-linear operator, and as none of the remaining references were argued to do so, the Applicants submit that a *prima facie* case of obviousness is not supported against claims 27-29 and 39 for rejection under 35 U.S.C. §103(a). Thus, it is respectfully requested that the rejections of claims 27-29 and 39 under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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